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EXAMINER

SANTIAGO CORDERO, MARIVELISSE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/774,034	<b>Applicant(s)</b> HRASTAR, SCOTT E.	
	<b>Examiner</b> MARIVELISSE SANTIAGO-CORDERO	<b>Art Unit</b> 2617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/29/2008 has been entered.

***Response to Arguments***

2. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. However, since some of the references still apply, in response to Applicant's arguments that Zuk's et al. (hereinafter "Zuk") security policy is not wireless policy as recited in the claims (i.e., "wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings) and, in contrast, teaches wired security policy (Remarks: page 9, 1<sup>st</sup> full paragraph), the Examiner respectfully disagrees. Zuk shows in Fig. 3 a preferred Multi-Method Network Security System and the private network environment in which the system and method operate (paragraph [0083]). A disclosed example of a network environment is a wireless network (Fig. 3, reference 70). One of ordinary skill in this art would understand that the techniques applied to one of the networks presented by Zuk can be applied to the other networks as well. Accordingly, the techniques (e.g., security policy) applied to the wired networks (Fig. 3, references 50, 55, and 65) would be equally applicable to wireless network 70 as described in paragraphs [0083]-[0084] of Zuk. Therefore, Zuk discloses, at the very least implicitly, wireless policy as argued.

Furthermore, Zuk discloses existing network security technologies, which maintain their privacy through the use of security procedures involving authentication and encryption (paragraphs [0005]-[0008]) and choosing an authentication method by comparing the method the client supports against security policy (paragraph [0015]). Therefore, Zuk does disclose wireless policy as recited in the claims (i.e., “wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings).

Applicant argues that Zuk is a wired intrusion detection-based system, and does not teach or suggest wireless statistics as recited by Applicants (Remarks: page 9, 3<sup>rd</sup> full paragraph; page 10, 2<sup>nd</sup> full paragraph). In response, the Examiner respectfully disagrees. As stated above, Zuk shows in Fig. 3 a preferred Multi-Method Network Security System and the private network environment in which the system and method operate (paragraph [0083]). A disclosed example of a network environment is a wireless network (Fig. 3, reference 70). One of ordinary skill in this art would understand that the techniques applied to one of the networks presented by Zuk can be applied to the other networks as well. Accordingly, the techniques applied to the wired networks (Fig. 3, references 50, 55, and 65) would be equally applicable to wireless network 70 as described in paragraphs [0083]-[0084] of Zuk. In addition, Zuk discloses that the information provided by the sensors and the server is organized in reports that provide access to network statistics, such as the top IP addresses used in attacks, the top attacks, the number of alarms and incidents generated, whether the alarm is real or false, among other statistics (see e.g., paragraphs [0055] and [0082]). In addition, Zuk discloses updating a signature-specific count, e.g., to count how many different hosts were contacted from the same IP address, during a given

time period, and so on (paragraph [0111]). Accordingly, Zuk does disclose utilizing wireless statistics in the dynamic operational and security assessments as claimed.

Applicant argues that Zuk fails to teach, suggest, or disclose the wireless-based intrusion detection techniques of the Applicant, such as the wireless signature-based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests, specifically, Applicant's policy deviation-based tests can be utilized to ensure the wireless device is complying with predetermined wireless policy (Remarks: page 10, 1<sup>st</sup> full paragraph). In response, the Examiner respectfully disagrees. At the outset, it is noted that primary reference Challenger discloses the wireless device and wireless network of the claimed invention. Zuk shows in Fig. 3 a preferred Multi-Method Network Security System and the private network environment in which the system and method operate (paragraph [0083]). A disclosed example of a network environment is a wireless network (Fig. 3, reference 70). One of ordinary skill in this art would understand that the techniques applied to one of the networks presented by Zuk can be applied to the other networks as well. Accordingly, the techniques (e.g., signature-based tests, protocol-based tests, anomaly-based tests, and policy deviation-based tests) applied to the wired networks (Fig. 3, references 50, 55, and 65) would be equally applicable to wireless network 70 as described in paragraphs [0083]-[0084] of Zuk. Therefore, Zuk discloses, at the very least implicitly, the wireless-based intrusion detection techniques claimed. Furthermore, wireless policy deviation-based tests of Challenger in combination with Zuk inherently ensure the wireless device is complying with predetermined wireless policy.

Applicant argues that the combination of Challenger and Zuk does not disclose, suggest, or teach, detecting both unauthorized devices and authorized wireless devices which are displaying

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anomalous behavior (Remarks: page 10, 2<sup>nd</sup> full paragraph). In response, the Examiner contends that Zuk suggests these limitations. Zuk discloses that intrusion detection systems collect information from a variety of system and network resources to analyze the information for signs of intrusion (i.e., attacks coming from outside the network) and misuse (i.e., attacks originating from inside the network) (paragraph [0025]). Detecting intrusion is fairly characterized (and understood by those of ordinary skill in the art) as detection of unauthorized devices and detecting misuse is fairly characterized (and understood by those of ordinary skill in the art) as detecting authorized wireless devices which are displaying anomalous behavior. Nevertheless, a newly cited reference is used.

Moreover, it is noted that claim 1 is directed to an apparatus. It should be emphasized that, in accordance with **MPEP 2114**, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims must be structurally distinguishable from the prior art. *In Hewlett-Packard Co. v Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that: "Apparatus claims cover what a device is, not what it does". To emphasize the point further, the court added: "An invention need not operate differently than the prior art to be patentable, but need only be different". The cited references disclose all the structural limitations of the claim; therefore, meeting claim 1.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12, 15-16, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Challenger in views of and Zuk et al. (hereinafter “Zuk”; Pub. No.: US 2003/0154399) and Campbell et al. (Patent No.: US 6,893,850).

Regarding claim 1, Challenger discloses a system for tracking location of a wireless device, the system comprising:

a system data store (paragraph [0027]; note the server) capable of storing indicators of one or more wireless devices to track (paragraph [0027]);

a set of one or more wireless receivers (paragraphs [0026]-[0029]; note the workstations, wireless access points, and monitoring stations);

a system processor in communication with the system data store and the set of wireless receivers (paragraphs [0026]-[0028]), wherein the system processor comprises one or more processing elements programmed or adapted to perform the steps comprising of:

(a) identifying a wireless device for tracking based upon data from the system data store (Fig. 3; paragraph [0027]);

(b) receiving data from a subset of the set of wireless receivers (paragraphs [0026]-[0029]; note the workstations, monitoring stations, and wireless access point);

(c) storing the received data in the system data store (paragraphs [0027]-[0029]);

(d) calculating the position of the identified wireless device based upon the stored data (paragraphs [0028]-[0029]); and

(e) outputting the calculated position (Fig. 3, last step; note that the stored determined location and identity are retrieved by IT management; thus, outputted).

Challener fails to specifically disclose the system data store capable of storing one or more tracking criteria and identifying based upon a combination of dynamic operational and security assessments derived using data from the system data store, wherein the dynamic operational and security assessments identify the wireless device for tracking responsive to behavior of the wireless device, wherein the dynamic operational and security assessments comprise wireless signature-based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests, wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings, and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings; and wherein the received data is utilized to update wireless statistics used in the dynamic operational and security assessments, wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior. Note, however, that Challener discloses monitoring during normal business hours (paragraph [0025]); thus, suggesting tracking criteria.

Nonetheless, in the same field of endeavor, Zuk discloses the system data store capable of storing one or more tracking criteria (paragraph [0081], [0100], [0113]-[0115]) and identifying based upon a combination of dynamic operational and security assessments derived using data from the system data store (Fig. 13; paragraphs [0111], [0113]-[0115]), wherein the dynamic



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operational and security assessments identify the wireless device for tracking responsive to behavior of the wireless device (paragraphs [0046], [0052], [0111], [0113]-[0115]), and wherein the dynamic operational and security assessments comprise wireless signature-based tests (Fig. 13; paragraphs [0029], [0102]-[0103], [0114]; see *Response to Arguments* section above), wireless protocol-based tests (Fig. 13; paragraphs [0029], [0032], [0100], [0113] ; see *Response to Arguments* section above), wireless anomaly-based tests (Fig. 13; paragraphs [0111], [0115] ; see *Response to Arguments* section above), and wireless policy deviation-based tests (Fig. 13; paragraphs [0032], [0054], [0075], [0081], [0117] ; see *Response to Arguments* section above), and wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings (paragraphs [0005]-[0008], [0015], [0022]-[0023], and [0054]) comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings (paragraphs [0005]-[0008], [0015] and [0054]; note that when a client starts a session, it first sends a list of authentication method it supports, the firewall then compares these methods against security policy defined by the network administrator, chooses which one to use and authenticates the client; thus, comprising a deviation from a set of one or more of the wireless policy settings claimed, fairly characterized as the claimed authentication settings; see *Response to Arguments* section above), and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings (paragraphs [0005]-[0008], [0015], [0022]-[0023], and [0054]); and wherein the received data is utilized to update wireless statistics used in the dynamic operational and security assessments (paragraphs [0055], [0082] and [0111]; *Response to Arguments* section above).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to store in the system data store of Challenger one or more tracking criteria and identifying based upon a combination of dynamic operational and security assessments derived using data from the system data store, wherein the dynamic operational and security assessments identify the wireless device for tracking responsive to behavior of the wireless device, and wherein the dynamic operational and security assessments comprise wireless signature-based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests, wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings; wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings; and wherein the received data is utilized to update wireless statistics used in the dynamic operational and security assessments as suggested by Zuk for the advantages of accurately and comprehensively detecting and preventing network security breaches by integrating multiple methods of security detection (Zuk: Abstract; paragraphs [0042], [0044], [0046], [0056]); defining which traffic to inspect and which attacks the sensor should look for (paragraph [0054]), and organizing reports that provide access to network statistics (paragraphs [0055], [0082]).

Challenger in combination with Zuk fails to specifically disclose wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior. Note, however, that Zuk discloses these limitations. Zuk discloses that intrusion detection

systems collect information from a variety of system and network resources to analyze the information for signs of intrusion (i.e., attacks coming from outside the network) and misuse (i.e., attacks originating from inside the network) (paragraph [0025]). Detecting intrusion is fairly characterized (and understood by those of ordinary skill in the art) as detection of unauthorized devices and detecting misuse is fairly characterized (and understood by those of ordinary skill in the art) as detecting authorized wireless devices which are displaying anomalous behavior.

Nevertheless, in the same field of endeavor, Campbell discloses wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior (col. 2, lines 25-61; col. 4, lines 43-44; col. 10, lines 50-61; col. 13, lines 4-19 and 33-57).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the wireless statistics of Challenger in combination with Zuk to enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior as suggested by Campbell for the advantages of providing early indications and warnings of a suspected intrusion or misuse (Campbell: col. 1, lines 8-20).

Regarding claim 2, in the obvious combination, Zuk discloses wherein one or more tracking criteria are of a type selected from the group consisting of time, traffic level, threat level, protocol characteristics, usage characteristics or combinations thereof (paragraphs [0100], [0111], [0114]-0115]). Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to select the one or more tracking criteria from the group

consisting of time, traffic level, threat level, protocol characteristics, usage characteristics or combinations thereof as suggested by Zuk for the advantages of accurately, quickly, and comprehensively detecting and preventing network security breaches by integrating multiple methods of security detection (Zuk: Abstract; paragraphs [0042], [0044], [0046], [0056]).

Regarding claim 3, in the obvious combination, Zuk discloses wherein the one or more processing elements of the system processor are further programmed or adapted to perform the step comprising of dynamically determining one or more tracking criteria (paragraphs [0100], [0111], [0113]-[0115]). Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to dynamically determine one or more tracking criteria as suggested by Zuk for the advantages of accurately, quickly, and comprehensively detecting and preventing network security breaches by integrating multiple methods of security detection (Zuk: Abstract; paragraphs [0042], [0044], [0046], [0056]).

Regarding claim 4, in the obvious combination, Challenger discloses wherein the one or more processing elements of the system processor are further programmed or adapted to perform the step comprising of (f) repeat steps (a) through (e) continuously (paragraph [0025]; note that the steps may be performed periodically as distinguished from continuously; however, it is not excluding it from being continuously performed. Thus, Challenger suggests that the steps (a) through (e) can be performed continuously).

Regarding claim 5, in the obvious combination, Challenger discloses wherein the one or more processing elements of the system processor are further programmed or adapted to perform the step comprising of (f) repeat steps (a) through (e) periodically (paragraph [0025]).

Regarding claim 6, in the obvious combination, Challenger discloses wherein the one or more processing elements of the system processor are further programmed or adapted to perform the step comprising of (g) modifying the period of repetition of step (f) (paragraph [0030]), but fail to specifically disclose based upon one or more tracking criteria. However, Challenger does disclose monitoring once an hour or once a day during normal business hours so as to avoid imposing an excessive burden on other uses of the devices; thus suggesting based upon one or more tracking criteria. Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to (g) modifying the period of repetition of step (f) based upon one or more tracking criteria as suggested for the advantages of avoiding imposing an excessive burden on other uses of the devices (Challenger: paragraph [0030]).

Regarding claim 7, the limitations are rejected with the same grounds and for the same reasons stated above for claim 2.

Regarding claim 8, in the obvious combination, Challenger discloses wherein the programming or adaptation to identify the wireless device includes programming or adaptation to perform the step comprising of selecting the identified wireless device based upon indicators of one or more wireless devices in the system data store (Fig. 3; paragraph [0027]).

Regarding claim 9, in the obvious combination, Challenger discloses wherein the one or more processing elements are further programmed or adapted to perform the step comprising of (f) detecting an unauthorized wireless device (Fig. 3; paragraph [0027]) and (g) storing an indicator of the unauthorized wireless device in the system data store (Fig. 3, last step; paragraph [0027]).

Regarding claim 10, in the obvious combination, Challenger discloses wherein the identified wireless device is the unauthorized wireless device (Fig. 3; paragraph [0027]).

Regarding claim 11, in the obvious combination, Challenger discloses wherein the programming or adaptation to identify the wireless device includes further programming or adaptation to perform the step comprising of retrieving indicators of one or more wireless devices from the system data store (Fig. 3; paragraph [0027]).

Regarding claim 12, in the obvious combination, Challenger discloses wherein the programming or adaptation to calculate the position of the identified wireless device includes programming or adaptation to perform the steps comprising of:

- (i) sensing the identified wireless device (paragraph [0026]);
- (ii) storing RF signal characteristics in the system data store based upon the sensing (Challenger: paragraph [0027]); and
- (iii) dynamically selecting one or more additional sensors to improve tracking performance (paragraphs [0026]-[0029]).

Regarding claim 15, in the obvious combination, Challenger discloses wherein the calculated position is output to a user or to a computer system (Fig. 3; last step; note that the calculated position is retrieved by IT management; thus outputted to a user or to a computer system).

Regarding claim 16, in the obvious combination, Challenger discloses wherein the one or more processing elements of the system processor are further programmed or adapted to perform the step comprising of (f) storing the calculated position in the system data store (Fig. 3, last step; note the “stored determined location and identity”).

Regarding claim 19, Challenger discloses a method for tracking location of a wireless device, the method comprising the steps of:

- (a) detecting a wireless device (Fig. 3; paragraphs [0026]-[0027]);
- (b) adding an indicator associated with the detected wireless device to a list of wireless devices (Fig. 3; paragraphs [0026]-[0027])
- (c) selecting a wireless device for tracking based upon the list of wireless devices (Fig. 3; paragraphs [0026]-[0027]);
- (d) receiving data from one or more wireless receivers (paragraphs [0026]-[0029]; note the workstations, wireless access points, and monitoring stations)
- (e) calculating a position of the selected wireless device based upon the received data (Fig. 3; paragraphs [0026]-[0029])
- (f) outputting the calculated position (Fig. 3, last step; note that the stored determined location and identity are retrieved by IT management; thus, outputted;
- (g) repeating steps (a) and (b) upon occurrence of an event or at periodic intervals (paragraphs [0025] and [0030]);
- (h) repeating steps (c) through (f) upon occurrence of an event or at periodic intervals (paragraphs [0025] and [0030]).

Challenger fail to specifically disclose detecting utilizing one or more dynamic operational and security assessments, wherein the one or more dynamic operational and security assessments detect the wireless device responsive to behavior of the wireless device, and wherein the dynamic operational and security assessments comprise wireless signature-based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests,

wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings; and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings; and wherein the received data is utilized to update wireless statistics used in the dynamic operational and security assessments, wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior. Note, however, that Challenger discloses monitoring during normal business hours (paragraph [0025]); thus, suggesting tracking criteria.

Nonetheless, in the same field of endeavor, Zuk discloses the system data store capable of storing one or more tracking criteria (paragraph [0081], [0100], [0113]-[0115]) and identifying based upon a combination of dynamic operational and security assessments derived using data from the system data store (Fig. 13; paragraphs [0111], [0113]-[0115]), wherein the dynamic operational and security assessments identify the wireless device for tracking responsive to behavior of the wireless device (paragraphs [0046], [0052], [0111], [0113]-[0115]), and wherein the dynamic operational and security assessments comprise wireless signature-based tests (Fig. 13; paragraphs [0029], [0102]-[0103], [0114]; see *Response to Arguments* section above), wireless protocol-based tests (Fig. 13; paragraphs [0029], [0032], [0100], [0113]; see *Response to Arguments* section above), wireless anomaly-based tests (Fig. 13; paragraphs [0111], [0115]; see *Response to Arguments* section above), and wireless policy deviation-based tests (Fig. 13; paragraphs [0032], [0054], [0075], [0081], [0117]; see *Response to Arguments* section above), and wherein the policy deviation-based tests comprise a deviation from a set of one or more



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wireless policy settings (paragraphs [0005]-[0008], [0015], [0022]-[0023], and [0054]) comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings (paragraphs [0015] and [0054]; note that when a client starts a session, it first sends a list of authentication method it supports, the firewall then compares these methods against security policy defined by the network administrator, chooses which one to use and authenticates the client; thus, comprising a deviation from a set of one or more of the wireless policy settings claimed, fairly characterized as the claimed authentication settings); and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings (paragraphs [0005]-[0008], [0015], [0022]-[0023], and [0054]); and wherein the received data is utilized to update wireless statistics used in the dynamic operational and security assessments (paragraphs [0055], [0082] and [0111]; *Response to Arguments* section above).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to store in the system data store of Challenger one or more tracking criteria and identifying based upon a combination of dynamic operational and security assessments derived using data from the system data store, wherein the dynamic operational and security assessments identify the wireless device for tracking responsive to behavior of the wireless device, and wherein the dynamic operational and security assessments comprise wireless signature-based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests, wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings; wherein the policy

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deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings; and wherein the received data is utilized to update wireless statistics used in the dynamic operational and security assessments as suggested by Zuk for the advantages of accurately and comprehensively detecting and preventing network security breaches by integrating multiple methods of security detection (Zuk: Abstract; paragraphs [0042], [0044], [0046], [0056]); defining which traffic to inspect and which attacks the sensor should look for (paragraph [0054]), and organizing reports that provide access to network statistics (paragraphs [0055], [0082]).

Challener in combination with Zuk fails to specifically disclose wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior. Note, however, that Zuk discloses these limitations. Zuk discloses that intrusion detection systems collect information from a variety of system and network resources to analyze the information for signs of intrusion (i.e., attacks coming from outside the network) and misuse (i.e., attacks originating from inside the network) (paragraph [0025]). Detecting intrusion is fairly characterized (and understood by those of ordinary skill in the art) as detection of unauthorized devices and detecting misuse is fairly characterized (and understood by those of ordinary skill in the art) as detecting authorized wireless devices which are displaying anomalous behavior.

Nevertheless, in the same field of endeavor, Campbell discloses wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized

wireless devices and authorized wireless devices which are displaying anomalous behavior (col. 2, lines 25-61; col. 4, lines 43-44; col. 10, lines 50-61; col. 13, lines 4-19 and 33-57).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the wireless statistics of Challenger in combination with Zuk to enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior as suggested by Campbell for the advantages of providing early indications and warnings of a suspected intrusion or misuse (Campbell: col. 1, lines 8-20).

Regarding claim 20, Challenger in combination with Zuk disclose one or more computer readable media storing instruction that upon execution by a system processor cause the system processor to perform the method of claim 19 (Challenger: Fig. 4; paragraph [0031]; see rationale as previously discussed above for claim 19).

Regarding claim 21, Challenger discloses a system for tracking location of a wireless device, the system comprising:

storing means for storing indicators of one or more wireless devices to track (paragraph [0027]);

rogue detection means for receiving scan data from one or more wireless receivers (paragraphs [0026]-[0029]), for detecting a wireless device based upon the received scan data (paragraphs [0026]-[0029]) and for storing an indicator of the detected wireless device (Fig. 3; paragraphs [0026]-[0029]); and

position determining means for selecting a wireless device to track from the indicators in the storing means (Fig. 3; paragraphs [0026]-[0029]), receiving scan data from one or more wireless receivers (Fig. 3; paragraphs [0026]-[0029]), estimating the position of the selected wireless device based upon received scan data (Fig. 3; paragraphs [0026]-[0029]) and outputting the estimated position (Fig. 3, last step; note that the stored determined location and identity are retrieved by IT management; thus, outputted).

Challenger fail to specifically disclose the storing means for storing one or more tracking criteria and the rogue detection means for detecting based upon one or more dynamic operational and security assessments operable to detect the wireless device based on behavior, wherein the assessments are performed on the received scan data;

wherein the dynamic operational and security assessments comprise wireless signature-based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests, and wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings; and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings; and wherein the received data is utilized to update wireless statistics used in the dynamic operational and security assessments, wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior.

Note, however, that Challenger discloses monitoring during normal business hours (paragraph [0025]); thus, suggesting tracking criteria.

Nonetheless, in the same field of endeavor, Zuk discloses the storing means for storing one or more tracking criteria paragraph ([0081], [0100], [0113]-[0115]) and detecting a wireless device based upon one or more dynamic operational and security assessments operable to detect the wireless device based on behavior (Fig. 13; paragraphs [0046], [0052], [0111], [0113]-[0115]), wherein the assessments are performed on the received scan data (Fig. 13; paragraphs [0046], [0052], [0111], [0113]-[0115]), wherein the dynamic operational and security assessments comprise wireless signature-based tests (Fig. 13; paragraphs [0029], [0102]-[0103], [0114]; see *Response to Arguments* section above), wireless protocol-based tests (Fig. 13; paragraphs [0029], [0032], [0100], [0113] ; see *Response to Arguments* section above), wireless anomaly-based tests (Fig. 13; paragraphs [0111], [0115] ; see *Response to Arguments* section above), and wireless policy deviation-based tests (Fig. 13; paragraphs [0032], [0054], [0075], [0081], [0117] ; see *Response to Arguments* section above), and wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings (paragraphs [0005]-[0008], [0015], [0022]-[0023], and [0054]) comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings (paragraphs [0015] and [0054]; note that when a client starts a session, it first sends a list of authentication method it supports, the firewall then compares these methods against security policy defined by the network administrator, chooses which one to use and authenticates the client; thus, comprising a deviation from a set of one or more of the wireless policy settings claimed, fairly characterized as the claimed authentication settings); and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings (paragraphs [0005]-[0008], [0015], [0022]-[0023], and [0054]); and wherein the

received scan data is utilized to update wireless statistics used in the dynamic operational and security assessments (paragraphs [0055], [0082] and [0111]; *Response to Arguments* section above).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to store in the storing means of Challenger one or more tracking criteria and detecting based upon one or more dynamic operational and security assessments operable to detect the wireless device based on behavior, wherein the assessments are performed on the received scan data, wherein the dynamic operational and security assessments comprise wireless signature-based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests wherein the policy deviation-based tests comprise a deviation from a set of one or more wireless policy settings comprising wireless channel settings, authentication settings, encryption settings, SSID broadcast settings, and rate settings, and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings; and wherein the received scan data is utilized to update wireless statistics used in the dynamic operational and security assessments as suggested by Zuk for the advantages of accurately and comprehensively detecting and preventing network security breaches by integrating multiple methods of security detection (Zuk: Abstract; paragraphs [0042], [0044], [0046], [0056]); defining which traffic to inspect and which attacks the sensor should look for (paragraph [0054]), and organizing reports that provide access to network statistics (paragraphs [0055], [0082]).

Challenger in combination with Zuk fails to specifically disclose wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized

wireless devices and authorized wireless devices which are displaying anomalous behavior. Note, however, that Zuk discloses these limitations. Zuk discloses that intrusion detection systems collect information from a variety of system and network resources to analyze the information for signs of intrusion (i.e., attacks coming from outside the network) and misuse (i.e., attacks originating from inside the network) (paragraph [0025]). Detecting intrusion is fairly characterized (and understood by those of ordinary skill in the art) as detection of unauthorized devices and detecting misuse is fairly characterized (and understood by those of ordinary skill in the art) as detecting authorized wireless devices which are displaying anomalous behavior.

Nevertheless, in the same field of endeavor, Campbell discloses wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior (col. 2, lines 25-61; col. 4, lines 43-44; col. 10, lines 50-61; col. 13, lines 4-19 and 33-57).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the wireless statistics of Challener in combination with Zuk to enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior as suggested by Campbell for the advantages of providing early indications and warnings of a suspected intrusion or misuse (Campbell: col. 1, lines 8-20).

5. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Challener in combination with Zuk and Campbell, as applied to claim 1 above, and further in view of Won et al. (hereinafter "Won"; Patent No.: US 6,754,488).

Regarding claim 13, Challenger in combination with Zuk disclose the method of claim 1 (see above), but fail to specifically disclose wherein the programming or adaptation to output the calculated position includes programming or adaptation to perform the steps comprising of formatting the calculated position according to one or more output preferences. Note, however, that at the time of invention by applicant, output information was notoriously well known in the art to be formatted in order to meet/satisfy the needs/requirements of the receiver.

Nonetheless, in the same field of endeavor, Won discloses wherein the programming or adaptation to output the calculated position includes programming or adaptation to perform the steps comprising of formatting the calculated position according to one or more output preferences (col. 5, lines 23-26; col. 6, lines 36-39; note that visual or audible notification is outputted; thus, the output position is inherently formatted).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to format the calculated position of Challenger in combination with Zuk according to one or more output preferences as suggested by Won for the advantages of properly outputting the information and/or meeting the requirements of a receiver and is user-friendlier.

Regarding claim 14, in the obvious combination, Won discloses wherein the calculated position for output is formatted as an e-mail, a web page, a facsimile, a graphic, an XML page, an SNMP message, a page, or combinations thereof (col. 5, lines 23-26; col. 6, lines 36-39). Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to format the calculated position of Challenger in combination with Zuk as an e-mail, a web page, a facsimile, a graphic, an XML page, an SNMP message, a page, or combinations



thereof as suggested by Won for the advantages of distributing the information in widely available applications that are user-friendly and easily adoptable to the users.

6. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Challenger and Zuk and Campbell as applied to claim 1 above, and further in view of Ammon et al. (hereinafter “Ammon”; cited in IDS).

Regarding claim 17, Challenger in combination with Zuk disclose the system of claim 1 (see above), but fails to specifically disclose wherein the one or more processing elements of the system processor are further programmed or adapted to perform the step comprising of (f) removing an indicator of a wireless device from the system data store.

However, in the same field of endeavor, Ammon discloses wherein the one or more processing elements of the system processor are further programmed or adapted to perform the step comprising of (f) removing an indicator of a wireless device from the system data store (paragraphs [0106]-[0111]; note the active flag).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to remove the indicator of the wireless device from the system data store as suggested by Ammon for the advantages of keeping the most-up-to date information and avoiding filling the data store with duplicate, redundant, and/or unnecessary information.

Regarding claim 18, in the obvious combination, Ammon discloses wherein indicator removal is based upon manual deletion, time deletion, or a change in device security status from unauthorized to authorized (paragraphs [0106]-[0111]; note the active flag).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to base the indicator removal upon manual deletion, time deletion, or a

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change in device security status from unauthorized to authorized as suggested by Ammon for the advantages of keeping the most-up-to date information and avoiding filling the data store with duplicate, redundant, and/or unnecessary information.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIVELISSE SANTIAGO-CORDERO whose telephone number is (571)272-7839. The examiner can normally be reached on Monday through Friday from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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